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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Anjali Chandnani

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EXAMINER

SCHUBERT, KEVIN R

ART UNIT

PAPER NUMBER

2137

DATE MAILED: 06/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/905,343	CHANDNANI ET AL.	
	Examiner	Art Unit	
	Kevin Schubert	2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claims 1-26 have been considered. Examiner has carefully considered Applicant's Remarks but maintains the rejections presented in the previous action. A response to arguments section concludes this action.

5

Specification

The Specification is objected to in accordance with the 112, first paragraph, rejection below.

Claim Rejections - 35 USC § 112

10 The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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Claims 24-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Upon careful consideration of the Specification, Examiner fails to find the limitation "comparing the at least software operation with a repository of virus detection data" as described in line 5 of claim 24. In addition, Examiner submits that Applicant's amendments do not appear to be properly filed as Applicant has not specifically indicated support in the disclosure for new or amended claims (See MPEP 2163 II A).

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25 After review of the disclosure, Examiner finds teaching of language definition rules and language check rules. The language definition rules and the language check rules appear to be utilized to determine a virus. However, Examiner fails to find disclosure commensurate with the newly-added claim language, "comparing the at least software operation with a repository of virus detection data". Specific reference as to where this limitation is found in the Specification or appropriate correction is required.

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Claim Objections

Claim 24 is objected to because of the following informalities: "the at least software operation" appears to be grammatically incorrect. Appropriate correction is required.

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Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

15

Claims 1,4-9,13-16, and 19-26 are rejected under 35 U.S.C. 102(a) as being anticipated by Fermoye, (Fermoye, Ken. Firm Offers Free Tool to Fight 'Love You' Virus. June 2000. Ottawa PC User's Group).

As per claims 1,13-16, and 24, the applicant describes a method of detecting a script language virus comprising the following limitations which are met by Fermoye:

20

a) preparing language description data corresponding to at least one script language (paragraph 8);

b) preparing detection data for viral code corresponding to the script language virus (paragraph 8);

25

c) lexically analyzing a data stream using the language description data and the detection data to detect the viral code (paragraph 8);

As per claims 4-6 and 19-21, the applicant limits the method of claims 1 and 16, which are met by Fermoye, with the following limitation which is also met by Fermoye:

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Wherein the language description data correspond to language definition rules and language check rules, wherein the language definition rules include descriptions of constructs of the target script language and relationships between the constructs (paragraph 8).

5 As per claim 7, the applicant limits the method of claim 1, which is met by Fermoye (see above), with the following limitation which is also met by Fermoye:

Further comprising setting language definition rules for each of the at least one script language (paragraph 8);

10 The MailMarshal uses language definition rules to search for particular keywords within the viruses.

As per claims 8,9,22, and 25-26, the applicant limits claims 1,16, and 23, which are met by Fermoye (see above), with the following limitation which is also met by Fermoye:

15 Wherein the detection data comprise at least one test, wherein each of the at least one test correspond to a pattern match or a cyclical redundancy check (paragraph 8).

As per claims 10-11, the applicant describes the method of claim 1, which is met by Fermoye, with the following limitation which is also met by Fermoye:

20 Wherein the data stream is converted to a stream of tokens using lexical analysis (paragraph 8).

As per claim 23, the applicant limits the apparatus of claim 16, which is met by Fermoye (see above), with the following limitation which is also met by Fermoye:

25 Wherein detection engine converts the data stream to a stream of tokens using lexical analysis, and the tokens correspond to respective language constructs (paragraph 8).

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-3 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fermoye in view of Session (Session 19: Intro to Compiler Design: BNF, Recursion and Finite Automata. Fall 1999. Computer Science Course CS373. Retrieved from www.whitworth.edu/academic/Department/MathComputerScience/Courses/CS373_1999_Fall/Session_19.doc).

As per claim 2-3 and 17-18, the applicant limits the method of claims 1 and 16, which are met by Fermoye (see above), with the following limitation which is met by Session:

Wherein the language description data correspond to Dynamic Finite Automata (Session: pages 3-4);

Fermoye discloses all the limitations of claims 1 and 16. However, Fermoye does not explicitly address that the language description data are dynamic finite automata. Session discloses the well-known idea in the art that lexical analysis may rely on dynamic finite automata in order to recognize tokens in a language. Furthermore, the dynamic finite automata may be used to construct string matchers. Combining the ideas of Session with those of Fermoye allows the lexical analysis process to utilize dynamic finite automata.

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Session with those of Fermoye because utilizing dynamic finite automata as suggested by Session in the lexical analysis process of Fermoye would assist in the detection of viral code by providing an efficient means for recognizing tokens and constructing string matches.

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Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fermoye in view of the applicant's admitted prior art.

5 As per claim 12, the applicant describes the method of claim 10, which is met by Fermoye (see above), with the following limitation which is met by the applicant's admitted prior art:

Wherein a cyclical redundancy check is performed on the stream of tokens to detect viral code (Specification: pages 3-4);

As discussed by the applicant, one type of anti-virus technique is a cyclical redundancy check.

10 As part of the cyclical redundancy check (CRC), unique CRC signature for each and every file to be protected is generated and stored. At a later time, a CRC error checking program determines whether a file has been tampered with or otherwise has become corrupted since the CRC signature was generated and stored, by generating a second CRC signature and then comparing the stored CRC signature with the second CRC signature. It would have been obvious to one of ordinary skill in the art at the time the
15 invention was filed to combine the ideas of the applicant's admitted prior art with those of Fermoye and use a cyclical redundancy check on the stream of tokens because doing so increases security in the system by providing a means to determine whether a file has been tampered with or otherwise has become corrupted since the CRC signature was generated and stored.

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Response to Arguments

Applicant's arguments, see Remarks filed 5/22/06, with respect to the 102(a) rejection of claim 1 have been fully considered but they are not persuasive. Applicant argues that Fermoye does not disclose limitations a and b. However, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without
25 *specifically pointing out how the language of the claims patentably distinguishes them from the references.*

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At best, Applicant's arguments amount to a general assertion that keywords to be monitored by a computer cannot relate to language description data. However, Applicant gives no specific explanation as to how the claim language is believed to patentably distinguish over the Fermoye reference, nor how Applicant's vague notion of "language description data" precludes the interpretation provided by Examiner. As such, Applicant's argument amounts to a general allegation not rendered in compliance with 37 CFR 1.111(b).

In addition, Applicant submits that Examiner has not specifically indicated which portion of Fermoye is relied upon for limitation a. Examiner notes that it was indicated in the previous action that paragraph 8 was relied upon to teach limitation a (action mailed 1/20/06, page 2, four lines from the bottom). Even further, Examiner has indicated that the language description data may relate to keywords which are monitored by the detection data of the MailMarshal program. Thus, Examiner believes that a basis for the rejection has been indicated. Once again, Examiner notes that a proper argument for traversing this rejection must include not just a general contest but also a clear explanation pointing out how the language of the claims are believed to patentably distinguish over the references.

Applicant's arguments with respect to the 102(a) rejection of claim 4 have been fully considered, but they are not persuasive. Applicant submits that Examiner has noted with regard to the Fermoye reference that keywords may relate to language description data. Applicant further submits that amended claim 4 now teaches that language description data relate to constructs. Applicant appears to argue that interpreting keywords as constructs would squarely conflict with Applicant's teachings of a construct, and as such the claims are patentably distinct.

Examiner respectfully disagrees with such an argument for at least the reason that the Specification appears to teach that keywords may be constructs. Under the heading "Preparation of Language Description Data", the Specification teaches the following:

"The constituent parts/constructs of a target script language include, for example, operator symbols (e.g., "+", "=", etc.), identifiers (e.g., "x1", "y2", etc.), delimiters (e.g., "{...}", "BEGIN...END", etc.), keywords (e.g., "IF ... THEN", "GOTO", etc.), numbers, blank spaces, etc)" (Specification page 7, line 29 to page 8, line 2)

From at least the above, it appears that a keyword may be interpreted as a construct.
Accordingly, Examiner maintains the rejection.

Conclusion

5 Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date
10 of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Schubert whose telephone number is (571) 272-4239. The examiner can normally be reached on M-F 7:30-6:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding
20 the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the
25 automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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